

WHAT IS CLAIMED IS:

1.           A magnetic disk apparatus comprising:
  - a magnetic recording medium having a magnetic film on a substrate;
  - a magnetic head provided opposite to a surface of said magnetic recording medium, for inputting/outputting magnetic information into/from said magnetic recording medium;
  - a reading/writing semiconductor element integrated circuit device;
  - an electric wiring for electrically coupling said reading/writing semiconductor element integrated circuit device to said magnetic head;
  - a mechanism unit constituted by a suspension member for mechanically suspending said magnetic head so as to position said magnetic head opposite to said magnetic recording medium with a predetermined weight, an arm for supporting said suspension member, a carriage for holding said arm, and a rotary actuator for driving said carriage; and
  - a spindle motor for rotating said magnetic recording medium; wherein:
    - said electric wiring corresponding to a recording current supplying means to a magnetic recording element mounted on said magnetic head is formed on said suspension member; and a characteristic impedance of said electric wiring is higher than a maximum impedance of said magnetic recording element.

2. A magnetic disk apparatus as claimed in claim 1 wherein:

the characteristic impedance of said electric wiring is smaller than, or equal to 300 ohms.

3. A magnetic disk apparatus as claimed in claim 1 wherein:

the characteristic impedance of said electric wiring is higher than the impedance of said magnetic recording element at frequencies higher than or equal to 1 GHz.

4. A magnetic disk apparatus as claimed in claim 1 wherein:

the characteristic impedance of the electric wiring is higher than the impedance of said magnetic recording element under such a frequency condition corresponding to an inverse number of rise time of a recording current supplied to said magnetic head.

5. A magnetic disk apparatus as claimed in claim 1 wherein:

an inductance value of the magnetic recording element mounted on the magnetic head is smaller than or equal to 40 nH.

6. A magnetic disk apparatus as claimed in claim 1 wherein:

a frequency of said recording current is higher than or equal to 200 MHz.

7. A magnetic disk apparatus as claimed in claim 1 wherein:

a plurality of electric wirings are present between said magnetic head and said reading/writing semiconductor element integrated circuit device corresponding to a supply source of the recording current; and differences among characteristic impedances of said plural electric wirings are limited less than 10%.

8. A magnetic disk apparatus comprising:

a magnetic recording medium having a magnetic film on a substrate;

a magnetic head mechanically suspended by a suspension member and provided opposite to a surface of said magnetic recording medium, for mounting thereon both a magnetic recording element for writing magnetic information into said magnetic recording medium and a reproducing element for reading magnetic information from said magnetic recording medium;

a recording/reproducing semiconductor integrated circuit device;

an electric wiring for electrically coupling said recording/reproducing semiconductor integrated circuit device formed on said suspension member to both said recording element and said reproducing element;

an arm for supporting said suspension member;

a carriage for holding said arm;

a rotary actuator for driving said carriage;

and

a spindle motor for rotating said magnetic

recording medium; wherein:

a characteristic impedance of said electric wiring corresponding to a recording current supplying means to the magnetic recording element is higher than a characteristic impedance of said electric wiring for said reproducing element.

9. A magnetic disk apparatus as claimed in claim 8 wherein:

the characteristic impedance of the electric wiring for said magnetic recording element is higher than a maximum impedance owned by said magnetic recording element.

10. A magnetic disk apparatus comprising:

a magnetic recording medium having a magnetic film on a substrate;

a magnetic recording head mechanically suspended by a suspension member and provided opposite to a surface of said magnetic recording medium, for writing magnetic information into said magnetic recording medium;

a reproducing head mechanically suspended by the suspension member and provided opposite to the surface of said magnetic recording medium, for reading magnetic information from said magnetic recording medium;

a recording/reproducing semiconductor element circuit;

a first electric wiring pair formed via an insulating member on said suspension member, for electrically coupling said recording/reproducing

semiconductor element circuit to said magnetic recording head;

a second electric wiring pair for electrically coupling said recording/reproducing semiconductor element circuit to said reproducing head;

an arm for supporting said suspension member;

a carriage for holding said arm;

a rotary actuator for driving said carriage;

and

a spindle motor for rotating said magnetic recording medium; wherein:

an interval between the electric wirings which constitute said first electric wiring pair corresponding to a recording current supplying means to said magnetic recording element is made wider than an interval between the electric wirings which constitute said second electric wiring pair.

11. A magnetic disk apparatus as claimed in claim 10 wherein:

the characteristic impedance of the electric wiring pair for said magnetic recording element is high r than a maximum impedance owned by said magnetic recording element.

12. A magnetic disk apparatus comprising:

a magnetic recording medium having a magnetic film on a substrate;

a magnetic recording head mechanically suspended by a suspension member and provided opposite to

a surface of said magnetic recording medium, for writing magnetic information into said magnetic recording medium;

a reproducing head mechanically suspended by the suspension member and provided opposite to the surface of said magnetic recording medium, for reading magnetic information from said magnetic recording medium;

a recording/reproducing semiconductor element circuit;

a first electric wiring pair formed via an insulating member on said suspension member, for electrically coupling said recording/reproducing semiconductor element circuit to said magnetic recording head;

a second electric wiring pair for electrically coupling said recording/reproducing semiconductor element circuit to said reproducing head;

an arm for supporting said suspension member;

a carriage for holding said arm;

a rotary actuator for driving said carriage;

and

a spindle motor for rotating said magnetic recording medium; wherein:

said second electric wiring pair corresponding to a transmission path for a reproduction signal is arranged between said first electric wiring pair corresponding to a recording current supplying means to said magnetic recording element.

13. A magnetic disk apparatus as claimed in claim

12 wherein:

the characteristic impedance of the electric wiring pair for said magnetic recording element is higher than a maximum impedance owned by said magnetic recording element.